

THE Index is arranged according to subjects on the plan of the *Index du Répertoire Bibliographique* (published by MM. Gauthier-Villars, pp. 93, 2nd edition, 1898; about 2/-).

INDEX

TO THE

MATHEMATICAL GAZETTE

No. 44, MARCH, 1904—No. 60, DECEMBER, 1906.

COMPILED BY MISS A. J. TEAL.

1. Articles, etc.
2. Notes.
3. Reviews and Short Notices of Books.
4. Solutions and Problems.

EXPLANATORY REMARKS.

It is not possible to give in full the subjects under the thousand or so subdivisions which appear in the *Index*; but for the sake of those who do not possess the *Index* we give the subjects under the principal letters. This will amply suffice for the majority of our readers.

- A. Algebra; Theory of Equations.
- B. Determinants; Linear substitutions; Elimination; Invariants and Covariants; Complex Quantities.
- C. Differential and Integral Calculus.
- D. Theory of Functions; Algebra of Continued Fractions.
- E. Definite Integrals. . . .
- F. Elliptic Functions. . . .
- G. Hyperelliptic Functions. . . .
- H. Differential Equations . . . Finite Differences, Recurrent Series.
- I. Arithmetic. Theory of Numbers.
- J. Permutations and Combinations; Probabilities; Calculus of Variations. . . .
- K. Elementary Geometry and Trigonometry; Geometry of point, line, plane, circle, and sphere; Perspective; Descriptive Geometry.
- L¹. Conics.
- L². Quadrics.
- M¹. Algebraical Plane Curves.
- M². Algebraical Surfaces.
- M³. Algebraical Gauche Curves.

159670
74165

- N. Complexes and Congruences; Connexes; Systems of curves and surfaces; Enumerative Geometry.
 O. Infinitesimal and Kinematic Geometry.
 P. Transformations; Homography; Homology; Polar Reciprocals.
 Q. Geometry of n dimensions; non-Euclidean Geometry.
 R. Kinematics; Statics; Dynamics.
 S. Hydrostatics.
 T. Mathematical Physics.
 U. Astronomy.
 V. Philosophy and History of Mathematics. Biography. Methodology.
 X. Graphic Calculation.

ARTICLES, ETC.

TYPE.	TITLE.	AUTHOR.	PAGE.
A. 1. c.	On a Binomial Approximation.	J. E. A. Steggall.	267
C. 1. a.	Illegitimate Differentiation.	G. H. Bryan.	340
D. 2. b.	On Higher Trigonometry.	D. K. Picken.	329
D. 2. b.	Some Notes on Certain Theorems in Higher Trigonometry.	G. H. Hardy.	284
D. 2. b., etc.	The Discussion of Certain Power Series.	G. St. L. Carson.	348
D. 6.	I. Expansions of Trigonometrical Functions. II. Expansions of Functions in General.	W. N. Roseveare.	202
D. 6. b. c.	Some Notes on Certain Theorems in Higher Trigonometry.	G. H. Hardy.	284
D. 6. b. c.	On Higher Trigonometry.	D. K. Picken.	357
D. 6. b. c.	The Discussion of Certain Power Series.	T. J. I'a Bromwich.	305
J. 2. c.	Note on the "Method of the Arithmetic Mean" as applied to Rates of Increase.	G. H. Bryan.	97
J. 2. c.	A Mechanical Illustration of Prof. G. H. Bryan's "Mean Rate of Increase."	F. J. W. Whipple.	173
J. 4.	Some Useful Groups in the Teaching of Elementary Trigonometry.	G. A. Miller.	353
J. 20. e.	The Normal Law of Error.	C. S. Jackson.	241
K.	Projective Geometry.	F. S. Macaulay.	1
K. 20.	Some Useful Groups in the Teaching of Elementary Trigonometry.	G. A. Miller.	353
K. 20. a.	Some Notes on Certain Theorems in Higher Trigonometry.	G. H. Hardy.	284
K. 20. a.	On Higher Trigonometry.	D. K. Picken.	329, 357
K. 20. a.	A suggested Rearrangement of the Bookwork on Some Elementary Series.	T. J. I'a Bromwich.	85

INDEX.

v

TYPE.	TITLE.	AUTHOR.	PAGE.
K. 20. a.	Note on the Addition Formulae of Trigonometry.	J. G. Leathem.	81
K. 20. c.	The Power Series for $\sin x$, $\cos x$.	E. J. Nanson.	244
K. 20. c.	III. On Convergence of Series.	W. N. Roseveare.	246
K. 20. c.	The Discussion of Certain Power Series.	T. J. Fa Bromwich.	305
K. 20. c.	On 'Circular Measure' and the Product Forms of the Sine and Cosine.	W. N. Roseveare.	129
K. 20. c.	I. Expansions of Trigonometrical Functions. II. Expansions of Functions in General.	W. N. Roseveare.	202
K.21.a.a, β , γ .	Constructions with Straight Edge and Dividers.	R. F. Muirhead.	209
L ¹ . 15. f.	A New Cubic connected with the Triangle.	H. L. Trachtenberg.	288
M ² . 1.	Univocal Curves and Algebraic Curves on a Quadric Surface.	R. W. H. T. Hudson.	60
R.	The Scientific Results and Aims of Modern Applied Mechanics.	A. Sommerfeld.	26
R. 4.	On a Problem in Mechanics and the Number of its Solutions.	F. S. Macaulay.	365
R. 6.	The Principles of Dynamics.	W. Larden.	385
R. 8. d.	On the Adjustment of Kater's Pendulum.	A. O. Allen.	307, 394
V. 1. a.	Report of the M.A. Committee on the Teaching of Elementary Mathematics.		49
V. 1. a.	Report of the M.A. Committee on Advanced School Mathematics.		52
V. 1. a.	Proposals for a System of School Certificates.	(Board of Education).	53
V. 1. a.	A Suggested Rearrangement of the Bookwork on Some Elementary Series.	T. J. Fa Bromwich.	85
V. 1. a.	The Teaching of Mathematics and Physics.	C. S. Jackson.	75
V. 1. a.	The Teaching of Mechanics.	R. F. Muirhead.	265
V. 1. 10.	The Pseudo-Definition of the Straight Line.	G. B. Halsted.	291
V. 1. 10.	The Development of Geometrical Methods.	G. Darboux.	100, 121, 157, 169
V. 1. 10.	On the Axioms and Postulates employed in the Elementary Plane Constructions.	F. S. Macaulay.	78
V. 1. 10.	Japanese Mathematics.	W. J. G.	268
V. 1. 10.	On the Development of Mathematical Analysis and its Relations to some other Sciences.	E. Picard.	193, 217

TYPE.	TITLE.	AUTHOR.	PAGE.
V. 1. 10.	The New Geometry; The 'Previous' Regulations; Compulsory Greek. (Discussions at the Meeting of the Mathematical Association in 1905).		145
V. 1. 10.	Report of the Council, 1905.		281
V. 1. 10.	Report of the Committee on the Teaching of Elementary Mathematics, 1905.		282
V. 1. 10.	An Appeal.	The Editor.	282
V. 1. 10.	Mathematics for Army Candidates.	F. E. Robinson.	336
V. 1. 10.	On a Supposed Solution of the "Four Colour Problem."	J. Cook Wilson.	338

OBITUARIES.

	AUTHOR.	PAGE.
R. W. H. T. Hudson.	F. S. M.	73
The Rev. G. Richardson.	H. D. Ellis.	25
Paul Tannery.	G. H. Bryan.	168

CORRESPONDENCE.

	PAGE.
Elementary Pure Geometry with Mensuration.	167
Civil Service Commission.	94

MATHEMATICAL NOTES.

	No.	SUBJECT.	AUTHOR.	PAGE.
A. 1. c.	178	An Approximation to the r^{th} Root of a Number.	F. J. W. Whipple.	260
A. 1. c.	185	Note on a point in the Demonstration of the Binomial Theorem.	V. Ramaswami Aiyar.	277
A. 1. b.	192	Note on the Power Inequality.	V. Ramaswami Aiyar.	321
A. 1. b.	149	Note on some Inequalities connected with certain Expressions.	F. S. Macaulay.	60
A. 3. k.	179	Cubic Equations.	W. J. G.	260
C. 1. e.	188	Proof of Taylor's Theorem.	G. H. B.	278
C. 1. e. a.	186	Indeterminate Forms.	C. S. Jackson.	277
C. 2. h.	193	On two well known Integrals.	R. W. Genese.	322
D. 2. a.	201	Note on No. 174.	P. E. B. Jourdain.	327
D. 2. a.	206	Note on No. 202.	P. E. B. Jourdain.	380
D. 2. a.	204	Elementary Illustration of the Properties of Infinite Series.	G. St. L. Carson.	351
D. 2. a.	202	Note on No. 201.	E. B. Elliott.	349
D. 2. a.	143	A Set of Criteria for Convergence or Divergency of Series of Positive Terms.	E. B. Elliott.	32

INDEX.

vii

	No.	SUBJECT.	AUTHOR.	PAGE.
D. 2. a.	174	The Criterion as to a Sequence tending to a Limit.	E. B. Elliott.	236
D. 6. b.	212	The Exponential Function.	C. O. Tuckey.	403
D. 6. b.	176	The Fundamental Exponential Limit.	E. J. Nanson.	237
I. 1.	184	The Third Approximation of the n^{th} Root of a Number.	T. J. I'a Bromwich.	275
J. 5.	187	The Continuum.	W. J. G.	278
K.	182	Proofs of Euler's Theorem, etc.	Harold Hilton.	262
K. 2. a.	180	Note on Simson's Line.	E. P. Rouse.	261
K. 2. c.	213	The Nine-point Circle.	C. O. Tuckey.	404
K. 2. d.	172	Three Conics connected with a Triangle.	H. L. Trachtenberg.	213
K. 9.	210	I. Construction of a Regular Pentagon.	E. Budden.	381
K. 10. e.	221	Note on an Equation in No. 220.	W. H. H. Hudson.	408
K. 10. e.	222	Note on an Equation in No. 220.	W. H. H. Hudson.	408
K. 10. e.	220	To draw from any two given Points A, B two straight Lines to a Point R on a given Circle, having Centre at C , so that they may be equally inclined to CR .	H. Orfeur.	407
K. 13. a.	167	<i>Remarque Minuscule.</i>	G. Darboux.	176
K. 13. a.	173	<i>Remarque Minuscule.</i>	N. Quint.	236
K. 13. a.	189	<i>The Remarque Minuscule.</i>	R. W. Genese.	278
K. 20. a.	175	The Addition Formulae for Cosine and Sine.	E. J. Nanson.	237
K. 20. a.	155	Definitions of Trigonometrical Ratios, and General Proof of Addition.—Theorems for Sine and Cosine.	R. F. Muirhead.	89
K. 20. d.	142	To prove geometrically the principal Trigonometrical Relations of two Angles.	W. A. Whitworth	6
K. 20. f.	150	Napier's Rule of Circular Parts.	G. H. Bryan.	61
K. 21. 1.	164	The Constructions in Halsted's Rational Geometry.	G. B. Halsted.	161
K. 21. b.	169	An Approximate Construction for the Trisection of an Angle.	W. H. H. Hudson.	177
K. 23. e.	177	Projection of Diagrams.	E. M. Langley.	258
L'. 1.	144	Proofs of Theorems in Geometrical Conic Sections.	H. Hilton.	34
L'. 2. b.	181	A Problem for Solution.	J. Morley.	262
L'. 2. b.	205	Solution of No. 181.	H. Bateman.	379

	No.	SUBJECT.	AUTHOR.	PAGE.
L ¹ . 3. a.	165	On the Equation to the Asymptotes of the General Conic.	R. H. Pinkerton.	175
L ¹ . 3. a.	196	Cartesian Coordinates—A new Method of finding the Equation of the Axis of a Parabola.	H. L. Trachtenberg.	324
L ¹ . 3. a.	197	Trilinear Coordinates — The Equation of the Axes of the General Parabola.	H. L. Trachtenberg.	324
L ¹ . 3. a.	198	A new Method of finding the Equation of the Axes of the General Conic.	H. L. Trachtenberg.	325
L ¹ . 3. a.	199	Trilinear Coordinates — The Equation of the Axes of the General Conic.	H. L. Trachtenberg.	325
L ¹ . 3. a.	160	On the Equation to the Axes of the General Conic.	R. F. Davis.	108
L ¹ . 7. d.; 14. a.	217	Query as to a Geometrical Interpretation.	V. Ramaswami Aiyar.	406
L ¹ . 7. d.; 14. a.	218	Problem for Solution.	R. F. Davis.	406
L ¹ . 15. f.	216	On the Cubic of p. 288.	R. F. Davis.	406
L ² . 2. e.; 4. a.	200	A New Method of finding the Condition that the General Conicoid should be one of Revolution and of finding the Equation of its Axis.	H. L. Trachtenberg.	213
L ² . 7. 14. a.	156	To prove by Pascal's Theorem that the Straight Lines meeting three non-intersecting Straight Lines generate a Conicoid, i.e. a Surface every Plane Section of which is a Conic.	W. H. Blythe.	106
L ² . 8. b.	171	On the Normals from a Point to a Conicoid.	H. L. Trachtenberg.	213
L ² . 10. g.	145	A Circle and Sphere connected with a Confocal System of Conics and a Confocal System of Conicoids respectively.	H. L. Trachtenberg.	35
P. 1. f.	168	A Geometrical Construction.	Harold Hilton.	176
P. 3. b.	107	Continued Inversion by Co-axial Circles.	C. E. Youngman.	7
P. 3. b.	183	On Note 153.	W. J. G.	275
P. 3. b.	151	Note on Successive Inversion.	R. F. Davis.	61
P. 3. b.	153	On a Fundamental Theorem in Inversion.		88
P. 3. b.	154	Continued Inversion by Co-axial Circles.	Harold Hilton.	88

INDEX.

ix

	No.	SUBJECT.	AUTHOR.	PAGE.
P. 3. b.	158	On a Theorem in Inversion.	Harold Hilton.	107
P. 3. b. a.	159	A Note on the Gnomonic Projection.	Harold Hilton.	108
P. 3. b. a.	144	To find the Relation between two Maps of the same Contour on the Stereographic Projection.	Harold Hilton.	33
P. 3. b. a.	157	On Note 144.	Harold Hilton.	107
R. 4. d.	161	Graphic Construction for the Central Axis of two non-intersecting Forces.	G. H. Bryan.	109
R. 5. a.	146	To prove that the Circles on one side of the Radical Axis of any given Non-intersecting Coaxial System can be described simultaneously by a Swarm of Particles under the Attraction of a Central Force.	H. L. Trachtenberg.	35
R. 9.; K. 9. b.	194	I. Inexactitudes in the treatment of simple exercises on the Motion of Unequal Masses suspended over a Pulley.	A. F. van der Heyden.	323
T. 3.	203	A Construction for the Paths of certain Parallel Rays.	P. J. Heawood.	350
V.	214	An Illustration by Dissection.	A. E. Pierpoint.	404
V. a.	170	Negative Quantities.	C. S. Jackson.	211
V. a.	191	On (1) Higher Trigonometry, (2) Contracted Multiplication and Division.	Charles Godfrey.	320
V. a.	152	Echo from the Examination Room.	W. J. G.	62
V. a.	209	Value of a Metre.	F. W. Dobbs.	381
V. a.	211	Shortened Method of Multiplication, etc.	E. Budden.	382
V. 1. a.	147	On Decimalisation of Money.	E. C. Chambers.	36
V. 1. a.	190	An Apparatus for teaching Long Multiplication.	F. J. O. Coddington.	279
V. 1. a.	223	Higher Trigonometry.	C. O. Tuckey.	408
V. 4. c.	215	A Method of obtaining a second Approximation.	W. M. Roberts.	405
V. 9.	219	Merz's "History of Mathematical Thought."	T. J. Garstang.	406
X. 1.	195	Note on the Number of Feet in a Metre.	H. L. Trachtenberg.	324
X. 4.	207	Graphs.	G. H. Bryan.	380
X. 4.	208	Figure of a Bicycle.	G. H. Bryan.	380

	No.	SUBJECT.	AUTHOR.	PAGE.
X. 4. b. a.	148	A Graphical Solution of the typical Quadratic Equation $ax^2 \pm bx \pm c = 0$.	W. O. Hemming.	36
X. 4. c.	166	A Glimpse of the Obvious.	C. S. Jackson.	176
X. 5.	162	Extract from an old Pamphlet on the Slide Rule.	C. S. Jackson.	137

REVIEWS AND NOTICES.

AUTHOR.	BOOK.	REVIEWER.	PAGE.
Ahrens.	Scherz und Ernst in der Mathematik.	W. J. G.	118
Alexandroff.	Aufgaben aus der Niederen Geometrie.	W. J. G.	69
Allcock.	Theoretical Geometry for Beginners.	H. H.	114
Allpress and Marshall.	The Oxford and Cambridge Graphical Algebra.	W. J. G.	142
Askwith.	A Course of Pure Geometry.	W. J. G.	19
Baker (and Bourne).	Examples in Algebra selected from Elementary Algebra.	W. J. G.	142
Baker (and Bourne).	Elementary Algebra.	C. S. Jackson.	183
Baker.	Elementary Dynamics.	C. S. Jackson.	252
Ball.	Mathematical Recreations and Essays.	W. J. G.	256
Barnard (and Child).	A New Geometry for Junior Forms.	H. H.	188
Barnard (and Child).	A New Geometry for Junior Forms.	W. J. G.	18
Barrell.	Elementary Geometry.	W. J. G.	18
Barton.	Elements of Plane Surveying.	C. S. Jackson.	111
Basset.	An Elementary Treatise on Cubic and Quadric Curves.	P. Worstley Wood.	17
Bauer.	Vorlesungen über Algebra.	W. J. G.	21
Besant (and Ramsay).	A Treatise on Hydromechanics.	W. J. G.	116
Bolza.	Lectures on the Calculus of Variations.	T. J. Fa Bromwich.	177
Boole.	Lectures on the Logic of Arithmetic.	W. J. G.	18
Borchardt.	Arithmetical Types and Examples.	W. J. G.	20
Borchardt.	Arithmetical Examples.	W. J. G.	143
Borchardt (and Perrott).	A New Trigonometry for Schools.	H. H.	139
Borel.	Leçons sur les séries à termes positifs.	T. J. Fa Bromwich.	92
Borel, Baire, and Lin- delöf.	Leçons sur les fonctions de variables réelles, Le calcul des residus et ses applications à la théorie des fonctions.	C. H. Hardy.	231
Boucher.	Essai sur Hyperespace, Le Temps, Le Matière, L'Energie.	W. J. G.	65
Bourlet.	Leçons de Trigonométrie rectiligne.	H. H.	138

INDEX.

xi

PAGE.	AUTHOR.	BOOK.	REVIEWER.	PAGE.
36	Bowden.	Elements of the Theory of Integers.	<i>G. B. Mathews.</i>	14
176	Brahm.	Exercices Méthodiques de Calcul Intégral.	<i>W. J. G.</i>	118
137	Briggs (and Bryan).	The Tutorial Algebra.	<i>W. J. G.</i>	63
	Briggs (and Bryan).	The Tutorial Statics.	<i>W. J. G.</i>	64
	Bucherer.	Mathematische Einführung in die Electronentheorie.	<i>G. W. Walker.</i>	166
PAGE.	Budden.	Elementary Pure Geometry with Mensuration.	<i>A. Lodge.</i>	115
118	Campbell.	An Introductory Treatise on Lie's Theory of Finite Continuous Transformation Groups.	<i>E. B. Elliott.</i>	13
69				
114	Carslaw.	Introduction to the Infinitesimal Calculus.	<i>G. H. Hardy.</i>	274
142				
19	Carrara.	Tre Problemi Classici degli Antichi.	<i>W. J. G.</i>	21
142	Carrara.	Tre Problemi Classici degli Antichi	<i>W. J. G.</i>	65
183		Problema Terzo :—Trisezione dell' Angolo.		
252	Castle.	A Manual of Practical Mathematics.	<i>W. J. G.</i>	20
256	Caunt (and Jessop).	Geometrical Conics.	<i>R. H. Pinkerton.</i>	254
188				
	Classen.	Theorie der Electricität und des Magnetismus.	<i>G. W. Walker.</i>	187
18				
	Colaw (and Ellwood).	School Algebra.	<i>W. J. G.</i>	20
18				
111	Consterdine	Practical Mathematics.	<i>J. E. Boyd.</i>	296
17	(and Barnes).			
	Cox.	Mechanics.	<i>C. S. Jackson.</i>	62
21	Cunningham.	Quadratic Partitions.	<i>A. E. Western.</i>	138
116	Cunnington.	The Story of Arithmetic.	<i>W. J. G.</i>	66
	Dale.	Five-Figure Tables of Mathematical Functions.	<i>W. J. G.</i>	42
177				
18	Dassen.	Etudes sur les quantités mathématiques; grandeurs dirigées, quaternions.	<i>C. J. Joly.</i>	109
20				
143				
139	Dexter (and Garlick).	Longman's Senior Arithmetic.	<i>W. J. G.</i>	67
92				
231	Easton.	The Constructive Development of Group-Theory.	<i>A. Nother.</i>	39
	Eggar.	Mechanics.	<i>C. S. Jackson.</i>	250
	Emch.	An Introduction to Projective Geometry and its Applications: an Analytic and Synthetic Treatment.	<i>F. S. Macaulay.</i>	252
65				
	Ferrers.	Mathematical Papers of the late George Green.	<i>W. J. G.</i>	64
138	Fisher.	Kürze Einleitung in die Differential- und Integral-Rechnung.	<i>G. H. Hardy.</i>	274

AUTHOR.	BOOK.	REVIEWER.	PAGE.
Föppl.	Vorlesungen über Technische Mechanik.	<i>C. S. Jackson.</i>	250
Föppl.	Vorlesungen über Technische Mechanik.	<i>C. S. Jackson.</i>	110
Fort (and Schlömilch).	Lehrbuch der Analytischen Geometrie.	<i>W. J. G.</i>	69
Foster (and Dobbs).	Practical Geometry for Beginners.	<i>W. J. G.</i>	119
Fouet.	Leçons élémentaires sur la Théorie des Fonctions Analytiques.	<i>J. E. Wright.</i>	91
Frankland.	The First Book of Euclid's Elements with a Commentary based principally on that of Proclus Diadochus.	<i>W. J. G.</i>	254
Frenet.	Recueil d'Exercices sur le Calcul Infinitesimal.	<i>W. J. G.</i>	39
Gibson.	An Elementary Treatise on Graphs.	<i>W. J. G.</i>	142
Godefroy.	Théorie élémentaire des Séries.	<i>T. J. Fa Bromwich.</i>	93
Godfrey (and Ball).	A Note-Book on Experimental Mathematics.	<i>J. E. Boyd.</i>	297
Grace (and Young).	The Algebra of Invariants.	<i>P. A. MacMahon.</i>	8
Grassmann.	Gesammelte mathematische und physikalische Werke.	<i>R. W. H. T. Hudson.</i>	90
Guichard.	Sur les Systèmes triplement indéterminés et sur les Systèmes triple-orthogonaux.	<i>G. B. Mathews.</i>	271
Guillemin.	Tableaux logarithmiques, A et B.	<i>G. H. Bryan.</i>	376
Hall.	A Short Introduction to Graphical Algebra.	<i>W. J. G.</i>	142
Hall (and Beaven).	Solutions of the Examples in Hall's Graphical Algebra.	<i>W. J. G.</i>	141
Hall (and Stevens).	Lessons in Experimental and Practical Geometry.	<i>G. H. Young.</i>	182
Hall and Stevens.	A School Geometry. Parts I.-VI.	<i>W. J. G.</i>	143
Hall and Stevens.	A School Geometry. Part VI.	<i>W. J. G.</i>	143
Halsted.	Rational Geometry based on Hilbert's "Foundations."	<i>C. Godfrey.</i>	180
Hamilton (and Kettle).	Graphs and Imaginaries.	<i>W. J. G.</i>	142
Hardy.	The Integration of Functions of a Single Variable.	<i>T. J. Fa Bromwich.</i>	316
Hawkins.	Elementary Geometry of the Straight Line, Circle, and Plane Rectilineal Figures.	<i>W. J. G.</i>	144
Hawkins.	Key to Elementary Geometry.	<i>W. J. G.</i>	141
Hawkins.	Elementary Geometry.	<i>W. J. G.</i>	18
Hawkins.	Elementary Geometry of the Straight Line, Circle, and Plane Rectilineal Figures.	<i>W. J. G.</i>	189

INDEX.

xiii

PAGE.	AUTHOR.	BOOK.	REVIEWER.	PAGE.
	Hilbert.	Grundlagen der Geometrie.	<i>W. J. G.</i>	42
250	Holzmüller.	Methodisches Lehrbuch der Elementar-	<i>H. H.</i>	189
110		Mathematik.		
69	Holzmüller.	Methodisches Lehrbuch der Elementar-	<i>W. J. G.</i>	43
		Mathematik.		
119	Holzmüller.	Planimetre für das Gymnasium.	<i>W. J. G.</i>	301
91	Holzmüller.	Vorbereitende Einführung in die	<i>R. W. H. T. Hudson.</i>	91
		Raumlehre.		
254	Horn.	Gewöhnliche Differentialgleichungen	<i>H. Bateman.</i>	377
		beliebiger Ordnung.		
	Hudson.	Kummer's Quartic Surface.	<i>G. B. Mathews.</i>	228
39	Huntington.	The Continuum as a Type of Order :	<i>P. E. B. Jourdain.</i>	348
		An Exposition of the Modern Theory.		
142	James.	Elements of the Kinematics of a Point,	<i>C. S. Jackson.</i>	234
93		and the Rational Mechanics of a		
297		Particle.		
	Jessop.	A Treatise on the Line Complex.	<i>A. E. Western.</i>	37
8	Joly.	Manual of Quaternions.	<i>C. G. Knott.</i>	229
90	Kelland (and	Introduction to Quaternions.	<i>W. J. G.</i>	42
	Tait).			
271	Kerr.	Constructive Geometry.	<i>W. J. G.</i>	67
	Klein.	Neue Beiträge zur Frage des math. und	<i>H. H.</i>	188
		phys. Unterrichts an den höheren		
		Schulen.		
376	Koenigs-	Carl Gustav Jacob Jacobi.	<i>H. H.</i>	139
142	berger.			
141	Lamé.	Examen des différentes Méthodes em-	<i>W. J. G.</i>	64
		ployées pour résoudre les Problèmes		
		de Géométrie.		
182	Lachlan (and	Elements of Plane Trigonometry.	<i>W. J. G.</i>	143
	Fletcher).			
143	Leathem.	Volume and Surface Integrals used in	<i>G. H. Bryan.</i>	313
		Physics.		
143	Leblanc.	Les Mécanismes. Traité élémentaire	<i>C. S. Jackson.</i>	39
		de cinématique appliquée.		
180	Lemaire.	Méthodes de Résolution et de Discus-	<i>W. J. G.</i>	69
		sion des Problèmes de Géométrie.		
142	Liebmann.	Lobatschefskij's Imaginäre Geometrie	<i>G. H. Hardy.</i>	186
		und Anwendung der Imaginären		
		Geometrie auf einige Integrale.		
316	Lodge.	Easy Mathematics.	<i>W. J. G.</i>	255
144	Lodge.	Integral Calculus for Beginners.	<i>C. S. Jackson.</i>	235
	Mackay.	Plane Geometry.	<i>W. J. G.</i>	301
	Mackay.	Plane Geometry, Practical and Theore-	<i>W. J. G.</i>	139
		tical.		
141	Mandart.	Cours de Géométrie Analytique de	<i>W. J. G.</i>	256
18		deux Dimensions. Des Sections		
189		Coniques.		
	Maurer.	Technical Mechanics.	<i>W. J. G.</i>	141

AUTHOR.	BOOK.	REVIEWER.	PAGE.
Maurer.	Technical Mechanics.	<i>C. S. Jackson.</i>	16
Mayo.	Elementary Trigonometry.	<i>H. H.</i>	114
Merriman.	Elements of Mechanics.	<i>C. S. Jackson.</i>	215
Meyer.	Integralrechnung.	<i>T. J. Pa Bromwich.</i>	317
Morgan.	Introductory Mathematics.	<i>J. E. Boyt.</i>	295
Muir.	The Theory of Determinants in the Historical order of their Develop- ment.	<i>W. J. G.</i>	319
Murray.	A First Course in Infinitesimal Calculus.	<i>W. J. G.</i>	40
Nettell.	An Introduction to Elementary Statics.	<i>R. M. M.</i>	189
Netto.	Elementare Algebra.	<i>W. J. G.</i>	119
Papelier.	Formulaire de Mathématiques Spéciales.	<i>W. J. G.</i>	43
Papelier.	Précis d'Algèbre et de Trigonometrie à l'usage de élèves de Mathématiques Spéciales.	<i>W. J. G.</i>	41
Pendlebury.	New School Arithmetic.	<i>W. J. G.</i>	67
Picard.	Œuvres de Charles Hermite.	<i>G. P. Mathews.</i>	270
Pierpont.	Lectures on the Theory of Functions of Real Variables.	<i>P. E. B. Jourdain.</i>	313
Pietzker.	Dr. E. Bardey's Anleitung zur Auflö- sung engekleideter algebraischer Aufgaben.	<i>W. J. G.</i>	19
Pittard (and Bullock).	The Power of the Continuums.	<i>P. E. B. Jourdain.</i>	302
Pressland.	An Introduction to the Study of Geometry.	<i>W. J. G.</i>	19
Pressland.	Scale and Protractor for Blackboard Drawing.	<i>E. M. Langley.</i>	19
Price.	Key to Godfrey and Siddon's Geometry.	<i>W. J. G.</i>	141
Radford.	Mathematical Problem Papers.	<i>R. F. Davis.</i>	116
Roberts.	Preliminary Geometry.	<i>W. J. G.</i>	68
Robin.	Théorie Nouvelle des Fonctions, ex- clusivement fondée sur l'idée de nombre.	<i>E. W. Barnes.</i>	10
Runge.	Théorie und Praxis der Reihen.	<i>W. J. G.</i>	93
Russell.	An Elementary Treatise on Pure Geometry.	<i>W. J. G.</i>	319
Sauerbeck.	Einleitung in die Analytische Geometrie der höhern Algebraischen Kurven nach den Methoden von Jean Paul de Gua de Malves.	<i>W. J. G.</i>	66
Séguier.	Éléments de la Théorie des Groupes Abstraites.	<i>E. B. Elliott.</i>	164
Seliwanoff.	Lehrbuch der Differenzenrechnung.	<i>W. J. G.</i>	69
Serret.	Lehrbuch der Differential- und Integral- Rechnung.	<i>W. G. J.</i>	119
Schilling.	Über die Anwendungen der darstellen- den Geometrie, insbesondere über die Photogrammetrie.	<i>H. H.</i>	188

INDEX.

xv

AUTHOR.	BOOK.	REVIEWER.	PAGE.
Schlesinger.	Einführung in die Theorie der Differentialgleichungen mit einer unabhängigen Variablen.	<i>H. Bateman.</i>	377
Schoute.	Mehrdimensionale Geometrie.	<i>T. J. Pa Bromwich.</i>	318
Schubert.	Auslese aus meiner Unterrichts und Vorlesungs-praxis.	<i>W. J. G.</i>	301
Schütte.	Anfangsgründe der darstellenden Geometrie für Gymnasien.	<i>W. J. G.</i>	300
Scott.	Theory of Determinants.	<i>W. H. Metzler.</i>	182
Shaw.	First Lessons in Observational Geometry.	<i>W. J. G.</i>	41
Smith.	Solutions of the Problems and Theorems in C. Smith's Geometrical Conics.	<i>W. J. G.</i>	141
Starley (and Clarke).	Preliminary Practical Mathematics.	<i>W. J. G.</i>	143
Stephan.	Die Technische Mechanik.	<i>R. M. Milne.</i>	112
Stern (and Topham).	Elementary Practical Mathematics.	<i>J. E. Boyl.</i>	298
Stern (and Topham).	Practical Mathematics.	<i>J. E. Boyl.</i>	299
Stokes.	Mathematical and Physical Papers.	<i>W. J. G.</i>	41
Stolz (and Gmeiner).	Einleitung in die Funktionentheorie.	<i>G. H. Hardy.</i>	184
Stolz (and Gmeiner).	Einleitung in die Funktionentheorie.	<i>G. H. Hardy.</i>	304
Study.	Geometrie der Dynamen.	<i>R. W. H. T. Hudson.</i>	15
Tact.	The Teacher's Blackboard Arithmetic.	<i>W. J. G.</i>	65
Tannery.	Notions de Mathématiques.	<i>W. J. G.</i>	40
Taylor.	Plane Trigonometry.	<i>H. H.</i>	114
Taylor.	Exercises in Arithmetic.	<i>W. J. G.</i>	143
Texeira.	Obras sobre Mathematica.	<i>W. J. G.</i>	118
Thiele.	Theory of Observations.	<i>E. T. Whittaker.</i>	116
Turnbull.	Elementary Plane Geometry.	<i>H. H.</i>	114
Vahlen.	Abstrakte Geometrie.	<i>W. H. Young.</i>	271
Vivanti.	Leçons Élémentaires sur la Théorie des Groupes de Transformations.	<i>E. B. Elliott</i>	110
Vonderlinn.	Parallelperspective-Rechtwinklige und Schiefwinklige Axonometrie.	<i>W. J. G.</i>	300
Vonderlinn.	Schatten-Konstruktionen.	<i>H. H.</i>	188
Vries.	Die Lehre von der Zentralprojektion im Vierdimensionalen Raume.	<i>H. H.</i>	166
Warren.	Experimental and Theoretical Course of Geometry.	<i>W. J. G.</i>	67
Warren.	Experimental and Theoretical Geometry.	<i>E. M. Langley.</i>	302
Watson.	Oblique and Isometric Projection.	<i>E. M. Langley.</i>	252
Webster.	The Dynamics of Particles, and of Rigid, Elastic, and Fluid Bodies.	<i>F. S. Macaulay.</i>	161
Wells.	Advanced Course in Algebra.	<i>W. J. G.</i>	69
Wieleitner.	Theorie der ebenen algebraischen Kurven höherer Ordnung.	<i>T. J. Pa Bromwich.</i>	318

AUTHOR	BOOK.	REVIEWER.	PAGE.
Wienecke.	Der Geometrische Vorkursus in Schulgemaszer Darstellung	<i>W. J. G.</i>	43
Willis.	Elementary Modern Geometry.	<i>W. J. G.</i>	302
Wilson.	On the Traversing of Geometrical Figures.	<i>W. H. Young.</i>	257
Withers.	Euclid's Parallel Postulate, Its Nature, Validity, and Place in Geometrical Systems.	<i>W. J. G.</i>	254
Young.	The Theory of Sets of Points.	<i>P. E. B. Jourdain.</i>	373

MISCELLANEA.

	BOOK.	REVIEWER.	PAGE.
A Handy Book of Logarithms (Blackie).		<i>W. J. G.</i>	139
Annuaire pour l'an 1904.		<i>W. J. G.</i>	19
Association of Teachers of Mathematics in the Middle States and Maryland.		<i>W. J. G.</i>	68
Correspondence d'Hermite et de Stieltjes.		<i>T. J. Fa Bromwich.</i>	272
Logarithmic Plotting Scales.		<i>W. J. G.</i>	189
Mathematical Apparatus, Instruments, etc.		<i>W. J. G.</i>	189
Practical (or Experimental) Mathematics.		<i>J. E. Boyt.</i>	294
Scientia—Exposé et Développement des questions scientifiques à l'ordre du jour.		<i>W. J. G.</i>	117
Sitzungsberichte der Berliner Mathematischen Gesellschaft.		<i>T. J. Fa Bromwich.</i>	273
Stereoscopic Views of Solid Geometry Figures.		<i>E. M. Langley.</i>	236
The Collected Mathematical Papers of J. J. Sylvester.		<i>W. J. G.</i>	70
The School Masters' Year Book and Directory.		<i>W. J. G.</i>	20
Text Book of Light.		<i>T. R. Dingal Davies.</i>	403

PROBLEMS AND SOLUTIONS.

NO.	SOLUTIONS.	PAGE.	NO.	SOLUTIONS.	PAGE.
422	K. 1. a.	44	481	L ¹ . 10. d.	47
423	B. 1. a.	44	483	L ¹ . 4. c.	47
429	R. 4. a.	45	497	R. 4. c.	71
442	L ¹ . 1. b.	46			

